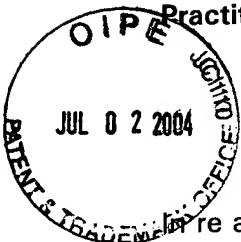


Practitioner's Docket No. 944-003.090

PATENT

2683  
#2  
OA  
7/1/04



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re application of: Pihl et al.

Application No.: 09/939,058

Group No.: 2683

Filed: August 24, 2001

Examiner: Danh C. Le

For: **METHOD OF LOCATING A MOBILE STATION BASED ON OBSERVED TIME DIFFERENCE**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

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Technology Center 2600

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

STATUS

2. Applicant is

☐ a small entity. A statement:

☐ is attached.

☐ was already filed.

☒ other than a small entity.

CERTIFICATE OF MAILING/TRANSMISSION UNDER 37 C.F.R. §1.8(a)

I hereby certify that this correspondence is, on the date shown below, being:

MAILING

☒ deposited with the United States Postal Service with sufficient postage as first-class mail, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

FACSIMILE

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Signature

Date: 6.30.04

Cathy Sturmer  
(type or print name of person certifying)

**EXTENSION OF TERM**

NOTE: "Extension of Time in Patent Cases (Supplement Amendments) - If a timely and complete response has been filed after a Non-Final Office Action, an extension of time is not required to permit filing and/or entry of an additional amendment after expiration of the shortened statutory period.

If a timely response has been filed after a Final Office Action, an extension of time is required to permit filing and/or entry of a Notice of Appeal or filing and/or entry of an additional amendment after expiration of the shortened statutory period unless the timely-filed response placed the application in condition for allowance. Of course, if a Notice of Appeal has been filed within the shortened statutory period, the period has ceased to run." Notice of December 10, 1985 (1061 O.G. 34-35).

NOTE: See 37 C.F.R. §1.645 for extensions of time in interference proceedings, and 37 C.F.R. §1.550(c) for extensions of time in reexamination proceedings.

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. §1.136 apply.

(complete (a) or (b), as applicable)

- (a) ☐ Applicant petitions for an extension of time under 37 C.F.R. §1.136 (fees: 37 C.F.R. §1.17(a)(1)-(4)) for the total number of months checked below:

<u>Extension (months)</u>	<u>Fee for other than small entity</u>	<u>Fee for small entity</u>
<input type="checkbox"/> one month	\$ 110.00	\$ 55.00
<input type="checkbox"/> two months	\$ 400.00	\$200.00
<input type="checkbox"/> three months	\$ 920.00	\$460.00
<input type="checkbox"/> four months	\$1,440.00	\$720.00

Fee: \$ \_\_\_\_\_

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next item, if applicable)

- ☐ An extension for \_\_\_\_\_ months has already been secured. The fee paid therefor of \$ \_\_\_\_\_ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request \$ \_\_\_\_\_

OR

- (b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

**FEE FOR CLAIMS**

4. The fee for claims (37 C.F.R. §1.16(b)-(d)) has been calculated as shown below:

(Col. 1)		(Col. 2)		(Col. 3)		SMALL ENTITY			OTHER THAN A SMALL ENTITY	
CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NO. PREVIOUSLY PAID FOR		PRESENT EXTRA		ADDIT. RATE	FEE	OR	ADDIT. RATE	FEE
TOTAL:	MINUS	20	=	0		x \$9 =	\$		x \$18 =	\$
INDEP:	MINUS	3	=	0		x \$42 =	\$		x \$84 =	\$
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEP. CLAIM						+ \$140 = \$			+ \$280 = \$	
						TOTAL ADDL. FEE	\$		TOTAL ADDL. FEE	\$ 0.00

**WARNING:** "After final rejection or action (§1.113) amendments may be made cancelling claims or complying with any requirement of form which has been made." 37 C.F.R. §1.116(a) (emphasis added).

(complete (c) or (d), as applicable)

(c) ☒ No additional fee for claims is required.

OR

(d) ☐ Total additional fee for claims required is \$\_\_\_\_\_.

**FEE PAYMENT**

5. ☐ Attached is a check in the sum of \$\_\_\_\_\_.

☐ Charge Account No. \_\_\_\_\_ the sum of \$\_\_\_\_\_. A duplicate of this transmittal is attached.

**FEE DEFICIENCY**

NOTE: If there is a fee deficiency and there is no authorization to charge an account, additional fees are necessary to cover the additional time consumed in making up the original deficiency. If the maximum six-month period has expired before the deficiency is noted and corrected, the application is held abandoned. In those instances where authorization to charge is included, processing delays are encountered in returning the papers to the PTO Finance Branch in order to apply these charges prior to action on the cases. Authorization to charge the deposit account for any fee deficiency should be checked. See the Notice of April 7, 1986 (1065 O.G. 31-33).

6. ☒ If any additional extension and/or fee is required, charge Account No. 23-0442

*AND/OR*

- ☒ If any additional fee for claims is required, charge Account No. 23-0442.



Signature of Practitioner

Reg. No.: 40,061

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Application of: **Pihl et al.** : Attorney Docket No.: **944-003.090**

Serial No.: **09/939,058** : Examiner: **Danh C. Le**

Filed: **August 24, 2001** : Art Unit: **2683**

For: **METHOD OF LOCATING A MOBILE STATION BASED ON OBSERVED TIME  
DIFFERENCE**

Mail Stop Amendment  
Director of the United States Patent & Trademark Office  
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**RESPONSE TO NON-FINAL OFFICE ACTION (Paper No. 6)**

Sir:

This responds to the Non-Final Office Action, mailed March 31, 2004.

In the patent application, claims 1-16 are pending. In the office action, claims 1-8, 15 and 16 are rejected and claims 9-14 are objected to, but would be allowable if rewritten in independent form.

At section 1 of the office action, claims 1, 2, 4-7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Watters et al.* (U.S. Patent No. 6,249,245 or No. 6,236,359, hereafter referred to as *Watters*) in view of *LeBlanc et al.* (U.S. Patent No. 6,236,365, hereafter referred to as *LeBlanc*). The Examiner states that *Watters* teaches a method of locating a mobile station in a telecommunications network having at least a first network operator having a plurality of first base stations (Figure 10, items 1030-1040; col.19, line 31 to col.22, line 35).

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Patent & Trademark Office, P.O. Box 1450, Alexandria,  
VA 22313-1450.

  
Cathy Sturmer

In rejecting claim 1, the Examiner admits that *Watters* fails to disclose at least one second base station of a second network operator, but points to *LeBlanc* for disclosing the second operator or commercial mobile radio service (CMRS) provider having a plurality of second base stations, as shown in Figure 5.

It is respectfully submitted that *LeBlanc* depicts two CMRS providers, each having a plurality of base stations in both Figure 3 and Figure 5. *LeBlanc* sets out to solve the problems in performing correlation between radio signals and the distance between the base station and a mobile station. The problems arise from a variety of factors, including terrain undulations, fixed and variable clutter, atmospheric conditions, internal radio characteristics of the cellular and PCS systems, the physical geometry of direct, refracted and reflected waves, noise, etc. (see Col.2, lines 41-58). *LeBlanc* solves the problems by using a base station infrastructure including multiple, distinct CMRS where base stations share a common coverage areas. (Col.10, lines 45-59).

The present invention sets out to solve a different problem in that one operator has only limited number of base stations, and it is impossible to calculate the position of the mobile station if there are not enough base stations in a certain area. Under that situation, one or more base stations of another operator will be used. The problem to be solved in the present invention is the insufficient number of base stations of one operator. The problem to be solved by *LeBlanc* is the inherence nature and the characteristics of radio transmission in mobile communication. *LeBlanc* makes change in the infrastructure. The present invention makes use of the existing infrastructure.

Furthermore, *Watters* has a different problem. The problem in *Watters* is not having four GPS satellites in clear view of a GPS receiver. The common problem arises, for example, in a city setting such as in an urban canyon, or indoors in the buildings. The need arises to find a replacement for one or more missing GPS satellites signals. (Col.2, line 60 – Col.3, line 2). *Watters* solves the problem by collecting and using DGPS (Differential GPS) error correction information (col.7, lines 59-65). *Watters* does not disclose or even suggest using a competitor's base stations.

In sum, *Watters* uses a different method to solve a problem that is different from that of the present invention. *LeBlanc* uses a different approach to solve problems different from that of *Watters*. There is no incentive to combine the teaching in *LeBlanc* with the teaching in *Watters*.

For the foregoing reasons, *LeBlanc* and *Watters* do not render the present invention obvious. Thus, claim 1 is distinguishable over *Watters*, in view of *LeBlanc*.

As for claims 2, 4-7 and 15, they are dependent from claim 1 and recite features not recited in claim 1. For reasons regarding claim 1 above, it is respectfully submitted that claims 2, 4-7 and 15 are also distinguishable over the cited *Watters* and *LeBlanc* references.

At section 2, the Examiner rejects claims 3 and 7 over *Watters*, in view of *LeBlanc* and further in view of *Weill* (U.S. Patent No. 6,246,361). The Examiner cites *Weill* for disclosing using geometric time-difference between the arrival time of signals transmitted from two base stations. However, *Weill* does not disclose or suggest using base stations of another operator. Claims 3 and 7 are dependent from claim 1 and recite features not recited in claim 1. For reasons regarding claim 1 above, it is respectfully submitted that claims 3 and 7 are also distinguishable over the cited *Watters*, *LeBlanc* and *Weill* references.

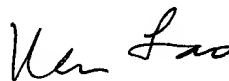
At section 3, claim 16 is rejected over *Watters*, in view of *LeBlanc* and further in view of *Edge* (U.S. Patent No. 5,597,916). The Examiner cites *Edge* for disclosing IPDL OTDOA. However, *Edge* does not disclose or suggest using base stations of another operator. Claim 16 is dependent from claim 1 and recite features not recited in claim 1. For reasons regarding claim 1 above, it is respectfully submitted that claim 16 is also distinguishable over the cited *Watters*, *LeBlanc* and *Edge* references.

### CONCLUSION

Claims 1-8, 15 and 16 are distinguishable over the cited references. Early allowance of these claims is earnestly solicited.

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Respectfully submitted,

  
\_\_\_\_\_  
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